

RAPID VALLEY DITCH
(Murphy Ditch)
Lower Rapid Valley Irrigation Ditches
On the North Side of Rapid Creek
Rapid City Vicinity
Pennington County
South Dakota

HAER No. SD-9

HAER
SD
52-RACI.V,
8-

PHOTOGRAPHS
WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
Rocky Mountain Regional Office
National Park Service
P.O. Box 25287
Denver, Colorado 80225-0287

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I. INTRODUCTION

Location: The Rapid Valley Ditch (Murphy Ditch) is located on the north side of Rapid Creek in Pennington County, South Dakota, in the vicinity of Rapid City

Quad: Rapid City East and Box Elder

UTM: Zone 13
Diversion: 645660 E, 4879710 N
Terminus: 655820 E, 4876190 N

Date of Construction: 1878

Present Owner: Rapid Valley Water Company
c/o Steve Murphy
Route 5 Box 125
Rapid City, South Dakota

Present Use: Irrigation

Significance: The Rapid Valley Ditch (Murphy Ditch) is significant for its association with the development of irrigated agriculture in South Dakota. The ditch is a representative example of irrigation systems constructed, maintained, and operated by farmers.

Historian: Lon Johnson
Renewable Technologies, Inc.
Butte, Montana 59701
February 1994

II. HISTORY

The Rapid Valley Ditch (Murphy Ditch) is located in the Lower Rapid Valley, just east of Rapid City, South Dakota. (See map on page 3.) The ditch diverts water from Rapid Creek, a major tributary of the Cheyenne River, which flows through the valley. The valley is about 40 miles long, and from one to two miles wide. By 1878, farmers occupied the valley floor from Rapid City east for a distance of ten miles. These farmers, individually and in groups, began digging irrigation ditches from Rapid Creek to bring water to their crops. Over the next decade, most of the ditches became part of farmer-owned ditch corporations. The stockholders of these corporations worked together to expand, operate, and maintain the ditches. Of the 12 or so ditch companies that have operated in the Lower Rapid Valley, seven continue to provide water to about 9,000 acres. (See HAER No. SD-5 for a historical narrative of the Lower Rapid Valley irrigation ditches.) The Rapid Valley Ditch (Murphy Ditch) is the earliest of these ditches.

On April 6, 1878, Freeman J. Lewis, Thomas E. Ponisett, C. Lewis, and J.F. Davis filed a water right on Rapid Creek.¹ This water right is recognized as the most senior irrigation water right to the creek.

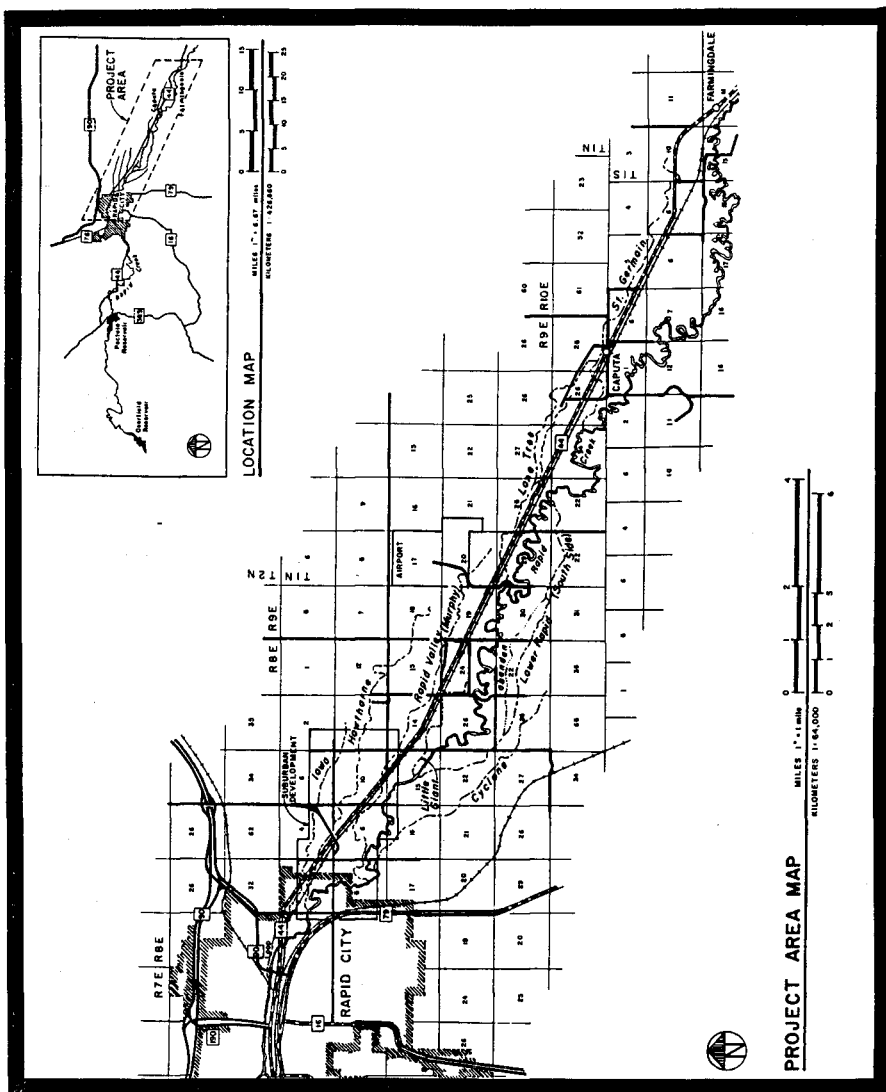
When a correspondent for the *Black Hills Journal* visited the farmers in the valley in 1880, he described the Clark Lewis and Freeman Lewis farms.

Clark Lewis arrived in the valley in 1877. Lewis had constructed a frame house and corral on his 160 acre homestead. In 1880, he was cultivating 10 acres of oats, one acre of barley, two acres of wheat, one acre of potatoes, and two acres of garden vegetables. Lewis was also experimenting with grapes and fruit trees.²

Freeman Lewis also arrived in the valley in 1877, and homesteaded 160 acres. He had planted 40 acres to oats, four acres to wheat, two acres to barley, a small field of corn, and five acres of garden vegetables. The correspondent noted that "[t]he Rapid Valley Irrigating Ditch passes through 130 acres of Mr. Lewis' land."³

The 1880 *Black Hills Journal* article mentions both the Rapid Valley Irrigating Ditch and the Lewis Ditch providing water to farms in this immediate area. It is unknown whether either or both of the ditches were predecessors of the Rapid

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Valley Ditch. When the Rapid Valley Water Company incorporated, it did not mention earlier companies. Later documentation to the company's water right lists only the individuals who originally filed the location.⁴

The Rapid Valley Water Company filed articles of incorporation on January 30, 1894. The company had the authority to issue \$15,000 in capital stock divided into 300 shares. The articles limited the assessment that could be levied on the stock in any year to 30 percent. The original directors were Francis M. Murphy, Francis M. Morris, Freeman J. Lewis, Samuel J. Morris, and Jay R. Eastman.⁵

In January 1914, the company requested an extension of its corporate existence. At that time, the 300 shares of stock were divided between six owners--each holding between 30 and 60 shares. The corporation valued its physical plant at \$20,000. The charter was extended again in 1934.⁶

The corporate records of the Rapid Valley Water Company have been destroyed.

In 1937, the Bureau of Reclamation found that 840 irrigable acres could be served by the Murphy Ditch.⁷

The Rapid Valley Water Company's priority right to water from Rapid Creek has apparently provided it with adequate water. The company did not join with the other irrigation companies in the valley when the Rapid Valley Water Users Association was organized, nor did it become a member of the Water Conservancy District. As a result, it has not been a part of later Bureau of Reclamation studies.

III. PHYSICAL DESCRIPTION

The Rapid Valley Ditch (Murphy Ditch) diverts water from the north side of Rapid Creek near the middle of the south one-half of Section 8, T1N, R8E. A deeply excavated intake canal directs the water to the headgate structure.

The headgate structure dates from c. 1960. It consists of an 8-foot long concrete wall placed across the canal. Two 9-foot long concrete walls, flaring slightly outward, extend from the upstream side of the structure. Mounted to one

side of the structure is the canal gate. It consists of a gate (not visible at the time of the survey) in a welded angle iron frame. The gate is raised and lowered in the frame by a threaded stem and 18-inch cast iron handwheel. Cast in the wheel is the maker's mark: SHERIDAN IRON WORKS, SHERIDAN, WYO.

The Rapid Valley Ditch (Murphy Ditch) below the headgate structure is located on the valley floor. The section of the canal is a cut through level ground with the excavated earth thrown on both sides. Just below the headgate, the canal is 15 feet wide at the bottom and six feet deep. The canal soon narrows to its typical section of about 30 inches wide.

The Rapid Valley Ditch (Murphy Ditch) diversion canal takes water from Rapid Creek at about 3120 feet in elevation. The canal then meanders in an easterly direction across the Rapid Valley floor through Sections 9, 10, 15, 14. In Section 14, the canal reaches the lower edge of the northern bench. From here, it follows the contour of the bench through Sections 13, 24, and 19. The canal terminates in Section 20, T1N, R9E at an elevation of about 3010 feet.

IV. FUTURE OF THE PROPERTY

The United States Department of Agriculture Water Quality Hydrologic Unit Area, Lower Rapid Creek Project, in Pennington County, South Dakota, was approved for funding by the Secretary of Agriculture in December of 1990. The Lower Rapid Ditch (Murphy Ditch) will not be directly affected as part of the project. It was included in the Historic American Engineering Record documentation as part of the mitigation for the project because of its significance.

See HAER No. SD-5 for a full description of the undertaking.

V. ENDNOTES

1. See: South Dakota Secretary of State, "Application for Extension of Corporate Existence Rapid Valley Water Company," filed 25 January 1935, Microfilm Roll No. OAZ-74.
2. *Black Hills Journal*, 31 July 1880.
3. Ibid.
4. *Black Hills Journal*, 24 July 1880.
5. South Dakota Secretary of State, "Articles of Incorporation of the Rapid Valley Water Company," filed 30 January 1894, Microfilm Roll No. OAZ-74.
6. South Dakota Secretary of State, "Application for Extension of Corporate Existence of the Rapid Valley Water Company," filed 19 January 1914; South Dakota Secretary of State, "Application of Rapid Valley Water Company for an Extension of its Corporate Charter," filed 25 January 1935; Microfilm Roll No. OAZ-74.
7. U.S. Department of the Interior, Bureau of Reclamation, "Report on Rapid Valley Irrigation Project South Dakota," November 1937. Copy in Library, Bureau of Reclamation, Newell, South Dakota.

VI. SELECTED BIBLIOGRAPHIC CITATIONS

Black Hills Journal.

South Dakota Secretary of State. "Application for Extension of Corporate Existence of the Rapid Valley Water Company," filed 19 January 1914. Microfilm Roll No. OAZ-74.

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